

Remarks

Applicant has not amended the claims. The pending claims 43-58 are those set forth in the response filed September 22, 2004.

The Examiner has entered the new claims 43-58 filed with the last response but has rejected them as obvious over the combination of Nakamura JP 08-222374 in view of Michaelson, H., "The Work Function of the Elements and its Periodicity," Journal of Applied Physics, Vol. 48, No. 11, November 1977, pages 4729-4733.

The Examiner has attempted to make a hindsight reconstruction of the invention, which is not taught by either Nakamura or Michaelson. Furthermore, the Examiner's construction of the primary reference Nakamura as reading on Applicant's claimed "fluoride or oxide of a metal..." is not proper.

Applicant's independent claim 43 recites "a reflectivity-influencing structure located on the non-viewing side of the light-emissive region and including a light absorbent layer comprising a fluoride or oxide of a metal having a work function of 3.5 eV or less." Claim 43 also recites "a second electrode located on a non-viewing side of a light-emissive region for injecting charge carriers of a second type."

The Examiner states that Nakamura teaches "a light absorbent layer comprising an oxide of a metal having a work function of 4.0 eV or less, including metals such as the alkaline earth metals sodium, potassium, and calcium (paragraphs 9-11)." To the contrary, Nakamura teaches the use of a mixture of: A) a light-absorbing material such as graphite or of formula I (paragraph 10); and B) a metal having a work function of less than or equal to 4.0 eV. Neither of components A or B is Applicant's claimed "fluoride or oxide of a metal having a work function of 3.5 eV or less." Graphite is not a fluoride or oxide of a metal, and formula I is an aromatic organic molecule complexed to an alkaline earth metal. The molecule/complex of formula I has a completely different chemistry than Applicant's claimed "fluoride or oxide of a metal" at least for the reason that a majority of the formula I molecule is organic. In contrast, Applicant's claimed metal oxide compound, such as lithium oxide (LiO) or calcium oxide (CaO) (page 13), are inorganic compounds. Thus, Nakamura fails to teach or suggest the subject matter of claim 1.

The secondary reference, Michaelson, fails to cure the deficiencies of the primary reference. Rather, Applicant's claimed structure is clearly unobvious over the cited combination.

The presently claimed invention is based on a finding that a low work function metal fluoride or metal oxide as defined in claim 43 can function to both inject electrons and absorb light. This is not taught by Nakamura. To the contrary, Nakamura (at paragraphs 9-11) teaches the use of a light absorbing material (such as graphite or the complex of formula I) in a **mixture** together with a metal having a work function of 4.0 eV or less. In Nakamura, the electron injection is attributed to the metal (not to the metal oxide), and Nakamura thought it was necessary to use a low work function metal in its **elemental** form to achieve electron injection.

In contrast, Applicant's claimed metal fluoride or metal oxide as defined in claim 43 can function to both inject electrons and absorb light.

The Examiner suggests that because Michaelson teaches work functions of certain elements below 3.0, it would be obvious to modify the light absorbing material of Nakamura, which may include sodium, potassium or calcium, to have a work function of less than or equal to 3.5 eV. However, this is contrary to Nakamura's teaching to use a mixture of a light-absorbing material and a metal, where the metal is used in its elemental form to provide the electron injection, while the other component (e.g., the organic molecule/complex) provides the light absorption function. Nakamura requires the mixture. Thus, the combination of references fails to teach or suggest Applicants claim 43.

Applicant's dependent claims 44-58 further define the components of Applicant's light-emissive device recited in claim 43. As the cited references fail to teach or suggest the subject matter of independent claim 43, they similarly fail to teach or suggest the more specific embodiments described in Applicant's dependent claims. Thus, Applicant respectfully asserts that the present claims patentably distinguish over the cited references. Reconsideration and allowance of the present claims is respectfully requested.

Reconsideration of this application is respectfully requested. If the Examiner believes that a teleconference would expedite prosecution of the present application the

Examiner is invited to call the Applicant's undersigned attorney at the Examiner's earliest convenience.

Please grant any extensions of time required to enter this response and charge any fees in addition to fees submitted herewith that may be required to enter/allow this response and any accompanying papers to our deposit account 02-3038 and credit any overpayments thereto.

Respectfully submitted,

Date:

June 9, 2005



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